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SERIES H: AUDIOVISUAL AND MULTIMEDIA SYSTEMS

Infrastructure of audiovisual services – Directory services
architecture for audiovisual and multimedia services

Semantic web interface for multimedia terminal and system directories (SWIM-D)

Recommendation ITU-T H.351



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Recommendation ITU-T H.351

Semantic web interface for multimedia terminal and system directories (SWIM-D)

Summary

Recommendation ITU-T H.351 describes a semantic web interface in XHTML that can be used to provide directory lookup and menu capabilities for multimedia terminals and systems.

Source

Recommendation ITU-T H.351 was approved on 13 June 2008 by ITU-T Study Group 16 (2005-2008) under Recommendation ITU-T A.8 procedure.

Keywords

Address book, directory, multimedia, web interface, white pages.

FOREWORD

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Introduction

This Recommendation describes a method by which XHTML documents can be accessed by multimedia terminals, systems, web browsers and middleware systems to recognize, navigate, process and display white pages directory structures. It addresses three primary needs:

- **Representing both people and resources in the directory.** While people are represented in directories in well known formats, there are not good standards for representing resources in the directory, even though those resources have important contact information. For example "help desk" and "conference room 112" are important entities which may contain multimedia conferencing resources that need to be contacted.
- **Diverse display characteristics of systems.** Some multimedia terminals, such as IP telephones, have limited user interface and processing capabilities, necessitating a simplified markup scheme for displaying address books and directory information. Advanced terminals, such as web browsers or video conferencing terminals, may have rich display capabilities yet need to formulate a directory display from the same data.
- **Structured navigation.** It may be that an organization wishes to control the way that white pages applications are served out to terminals and systems. For example, an organization may wish to publish an address book that allows navigation by department, product line, or individual last name.

Recommendation ITU-T H.351

Semantic web interface for multimedia terminal and system directories (SWIM-D)

1 Scope

This Recommendation describes a markup vocabulary for XHTML documents representing white pages directory information for multimedia terminals and systems. It describes a uniform resource locator (URL) syntax that supports directory searching. It also enumerates client and server behaviours necessary to support SWIM-D interaction effectively. The purpose of this Recommendation is to provide a framework for structured directory browsing when the underlying data structures are not known, such as when publishing directories of people, places and virtual organizations.

This Recommendation does not describe directory structures or directory access protocols.

This Recommendation is related to other ITU-T H.350-series Recommendations. While Recommendations ITU-T H.350.1 through H.350.7 describe directory schemas for various protocols that can drive call signalling engines directly, this Recommendation is intended for higher level access to directory data for white pages browsing only. [b-ITU-T E.115] describes a computerized directory assistance protocol for information exchange among service providers in support of assistance/inquiry services.

White pages implementers should review all of these related Recommendations for applicability.

2 References

The following ITU-T Recommendations and other references contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All Recommendations and other references are subject to revision; users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published. The reference to a document within this Recommendation does not give it, as a stand-alone document, the status of a Recommendation.

- [IETF RFC 2616] IETF RFC 2616 (1999), *Hypertext Transfer Protocol – HTTP/1.1*.
<<http://www.ietf.org/rfc/rfc2616.txt>>
- [IETF RFC 2617] IETF RFC 2617 (1999), *HTTP Authentication: Basic and Digest Access Authentication*.
<<http://www.ietf.org/rfc/rfc2617.txt>>
- [IETF RFC 2818] IETF RFC 2818 (2000), *HTTP Over TLS*.
<<http://www.ietf.org/rfc/rfc2818.txt>>
- [IETF RFC 3986] IETF RFC 3986 (2005), *Uniform Resource Identifier (URI): Generic Syntax*.
<<http://www.ietf.org/rfc/rfc3986.txt>>
- [W3C XHTML 1.1] W3C Recommendation (2001), *XHTML™ 1.1 – Module-based XHTML*.
<<http://www.w3.org/TR/2001/REC-xhtml11-20010531/>>

3 Definitions

3.1 Terms defined elsewhere

This Recommendation uses the following terms defined elsewhere:

3.1.1 cascading style sheets (CSS): [b-W3C HTML 4.01] A simple mechanism for adding style (e.g., fonts, colours, spacing) to web documents (W3C).

3.1.2 extensible markup language (XML): [b-W3C XML 1.0] A generalized text format maintained by the World Wide Web Consortium designed as a meta language to describe other markup languages.

3.1.3 hypertext markup language (HTML): [b-W3C HTML 4.01] The markup language for the world wide web maintained by the World Wide Web Consortium.

3.1.4 lightweight directory access protocol (LDAP): [b-IETF RFC 3377] A directory access protocol defined by the Internet Engineering Task Force to interact with X.500 directories.

3.1.5 XHTML: [W3C XHTML 1.1] An XML-compliant version of HTML designed to be syntactically rigorous in order to support machine-to-machine communication. Maintained by the World Wide Web Consortium.

3.2 Terms defined in this Recommendation

This Recommendation defines the following terms:

3.2.1 client: An agent that can access a directory page. A client can be a standard HTML browser or a SWIM-D client.

3.2.2 directory: A canonical collection of attributes about people and resources in an organization, including both the enterprise directory and the endpoints directory.

3.2.3 directory page: An XHTML document containing directory information. Directory pages may provide navigation, search and results in addition to other information.

3.2.4 directory proxy: A web server that publishes SWIM-D directory pages. Directory proxies have deep knowledge about the directories they access, and format that information into meaningful and useful directory pages for clients.

3.2.5 endpoint directory: A directory of endpoint information when that information is stored in a standalone directory, such as is the case with [b-ITU-T H.35x].

3.2.6 enterprise directory: A directory of people and resources within an organization.

3.2.7 resource: A non-human entity represented in a directory that may have with it associated real-time communications account and address data. Resources may be physical, such as "conference room 12" or virtual, such as "help desk", each of which has a voice or video over IP address.

3.2.8 semantic web interface for multimedia directories (SWIM-D): The interface that defines the structure of directory pages and how to access them via their uniform resource locator (URL).

3.2.9 SWIM-D client: A client that is capable of understanding and interpreting SWIM-D directory pages. A SWIM-D client can be an HTML browser that has knowledge of SWIM-D, or it can be an XML-aware agent that processes directory pages for non-HTML purposes, such as an address book or auto-dialler.

3.2.10 SWIM-D directory page: A directory page that is marked up using SWIM-D metadata.

3.2.11 SWIM-D URL: A uniform resource locator (URL) in the format specified to support access to SWIM-D directory pages.